

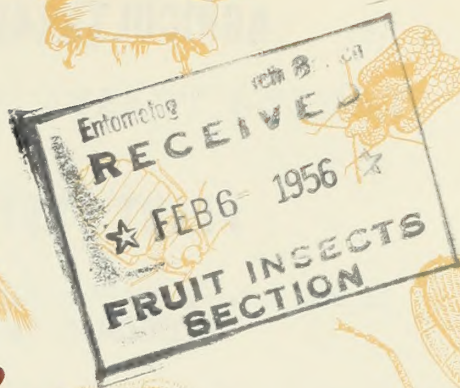
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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Economic Insect Survey Section
Plant Pest Control Branch
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

ARMYWORM moths active in south and east central Texas and at Charleston, South Carolina. (p. 77).

SPOTTED ALFALFA APHID lighter than last year at this time in areas of Arizona. (p. 75).

SUMMARY OF INSECT CONDITIONS - 1955 - Idaho (p. 78), Ohio (p. 84),

Summary of BEET LEAFHOPPER conditions in southern Idaho and eastern Oregon - 1955. (p. 83).

General LIGHT TRAP information - 1955. (p. 88).

WEATHER BUREAU'S 30-DAY OUTLOOK

February 1956

The Weather Bureau's 30-day outlook for February calls for temperatures to average below seasonal normals in most of the country west of the Mississippi, with greatest departures in the Great Plains. In the eastern third of the nation temperatures are expected to average near normal, except above in the Northeast and South Atlantic States. Precipitation is predicted to be subnormal in the Pacific Northwest and in the Southeast. In the remainder of the country above normal amounts are indicated.

This report released by the Weather Bureau on January 31, 1956.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 for six months.

Reports in this issue are for the week ending January 27, 1956, unless otherwise designated.

WEATHER FOR THE WEEK ENDING JANUARY 30, 1956

A low pressure system moving into, and another developing in the Southwest, resulted in precipitation conditions which were the most prominent features of the week's weather. The pattern for the entire United States showed heavy to moderate precipitation for most sections of the Pacific States, Nevada and Utah, in eastern North Dakota and northern Minnesota, and except for some Gulf coastal areas, the southeastern quarter of the Nation. One of the heaviest rainfalls in Los Angeles history hit the city on Wednesday and by Thursday night had deposited 7.39 inches of rain. Streets were flooded to depths of 3 feet with water moving at speeds of 25 m. p. h. Fifteen-hundred persons were forced to evacuate their homes. Losses due to flood damage were estimated at several million dollars. The southern California area in general received 4 to 9 inches along the coast, 9 to 13 inches in the mountains, and 1/2 to 2 inches in the western desert. On January 28, a storm center developed over New Mexico and moved northeastward and by the end of the period had reached the Atlantic Coast in the area of the southern New England States. During its passage sleet, freezing rain and scattered thunderstorms, were reported along its path from northeastern Oklahoma into parts of Missouri, Illinois, Indiana and Ohio. Deposits of snow ranging from a few to 10 inches fell from Kansas and Nebraska, eastward over the Ohio and middle Mississippi Valley, southern Lake region and the northeast. Farther South and East most of the precipitation fell as rain. Heaviest 24-hour amounts accompanying this storm were 3.58 inches at Little Rock, Ark., 2.01 at Memphis, Tenn. and 3.29 at Nashville, Tenn. Little or no rain fell in extreme southern New Mexico and southwestern Texas. Snow showers were frequent, but intermittent, along the Canadian Border.

High pressure with cold temperatures dominated most of the area east of the Mississippi early in the period, but temperatures moderated with the entrance of the southwestern storm. Conditions in the Northwest were reversed with warm air prevailing early in the period and later being followed by cold Arctic air. At the very end of the period this Arctic air had extended southward into Texas and eastward to the Atlantic Coast. Average temperature departures in general were not extreme. They were above normal in the New England States, in the extreme north-central portion of the country, also in an area reaching from Casper, Wyo., southwestward to Los Angeles, Calif., and southeastward to Mobile, Ala. All other areas reported temperature averages below normal. The extremes of average weekly departures ranged from -12° in the Great Falls, Mont., area to $+9^{\circ}$ at points in southern Texas and northern Maine. On January 27 frost was reported in Florida southward to Sarasota, De Soto and Highlands Counties. During the latter part of the period most of the snow cover disappeared from south of the Ohio River northeastward to the lower New England States; elsewhere, there was little change in the southward extent. Snow depths increased during the week in the States along the Canadian Border and in the central Great (Weather Continued on p. 77).

CEREAL AND FORAGE INSECTS

SPOTTED ALFALFA APHID - CALIFORNIA - Found in only light numbers in much of San Bernardino County, none in Mohave area. (Cal. Coop. Rept., Jan. 23). ARIZONA - Lesser in number than at this time in 1955, with only scattered heavily-infested alfalfa fields in Yuma area and Salt River Valley. (Ariz. Coop. Rept.).

CUTWORMS - TEXAS - Cutworms reported in CEIR, 6(3):37 on wheat found to be army cutworm (Chorizagrotis auxiliaris). (Davis).

FRUIT INSECTS

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Light in numbers in all areas of San Bernardino County except some citrus orchards where heavy infestations occurred. (Cal. Coop. Rept., Jan. 23).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - Light infestation in citrus in San Bernardino County. (Cal. Coop. Rept., Jan. 23).

A MITE (Typhlodromus rhenus) - OREGON - On cherry twigs in Corvallis, Jan. 22. (Burts).

A WHITEFLY (Aleurodicus cardini) - FLORIDA - Severe infestation on guava at Homestead, Dade County. (Miles).

Citrus Insect Situation, Florida, Third Week of January

PURPLE SCALE, infesting 89 percent of groves checked, activity declined but slowly increasing trend is expected. FLORIDA RED SCALE, infesting 55 percent of groves, increased slightly with decline expected. CITRUS RED MITE infesting 59 percent of groves inspected, activity increased with some further increase expected. CITRUS RUST MITE, infesting 59 percent of groves inspected, decreased in activity with decline expected to continue during February. (Pratt, Thompson, Johnson).

TRUCK CROP INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - GEORGIA - Larvae feeding on turnip leaves in Spalding County, Jan. 17. (Beckham).

CABBAGE APHID (Brevicoryne brassicae) - SOUTH CAROLINA - Heavily infesting old plantings of fall cabbage at Charleston, Jan. 19. (Cuthbert).

GREEN PEACH APHID (Myzus persicae) - SOUTH CAROLINA - Moderately abundant in cabbage beds and on spinach at Charleston, Jan. 19. (Cuthbert).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - SOUTH CAROLINA - Lightly infesting cabbage plant beds and turnips being grown for greens, at Charleston, Jan. 19. (Cuthbert).

DIAMONDBACK MOTH (Plutella maculipennis) - SOUTH CAROLINA - Occasional larvae on cabbage at Charleston, Jan. 19. (Cuthbert).

APHIDS - GEORGIA - Nymphs and stem mother causing damage to turnips and collards Jan. 17. (Beckham). VIRGINIA - Root aphids heavy on roots of dry-land cress at Blacksburg. (Andrews).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

HAWTHORN LACE BUG (Corythucha cydoniae) - FLORIDA - Nymphs and adults averaging many per pyracantha plant at Gainesville, Alachua County, Nov. 25, 1955. (Det. R. F. Hussey). (Mead).

AN APHID (Cinara tujafilina) - FLORIDA - Nymphs averaging 1000 per arborvitae plant at Fellowship, Marion County, Jan. 4. (Det. A. N. Tissot). (Condo).

A SCALE (Aspidiotus lataniae) - FLORIDA - Heavy infestation on pyracantha at Monticello, Jefferson County, Jan. 9. (Miller).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - TEXAS - Hypoderma lineatum heavier than normal on cattle in Madison County. (Garrett, Davis). Lighter than normal but heavy in some herds of cattle in Polk County. (O'Brien, Davis). NORTH CAROLINA - A few instances of light infestations. (Baker, Scott). UTAH - Appearing in backs of cattle in several additional counties. (Knowlton). MARYLAND - Beef yearlings at College Park averaged three grubs per animal and 21 of 31 heads infested. (U. of Md. Ent. Dept.).

CATTLE LICE - UTAH - Becoming an increasingly-serious problem on beef cattle in a number of counties. (Knowlton).

SHEEP SCAB MITE (Psoroptes equi ovis) - VIRGINIA - Found in four flocks of sheep in Washington County during December and January. Two flocks have been dipped. (Lyne).

STORED PRODUCT INSECTS

PECAN WEEVIL (Curculio caryae) - NORTH CAROLINA - Infestation of 20 percent in a lot of stored nuts in Mecklenburg County and another in Rutherford County. (Scott).

A MITE (Tyrophagus sp.) - TEXAS - Heavily infesting grain sorghum at Beaumont Experiment Station where rice weevil colony was being raised

for experimental purposes. (Bowling, Davis).

MISCELLANEOUS INSECTS

CLOVER MITE (Bryobia praetiosa) - NORTH CAROLINA - Invading homes in Davidson, Alamance and Wake Counties. (Scott, Smith).

Light Trap Collections:

TEXAS (College Station, 1/21-26): Pseudaletia unipuncta, 62; Agrotis ypsilon, 4; Feltia subterranea, 6. (Weslaco, 1/1-15): P. unipuncta, 38; Laphygma frugiperda, 10; A. ypsilon, 14; F. subterranea, 103; Heliothis zea, 15; H. virescens, 2. (Winter Haven, 1/1-15): P. unipuncta, 194; L. frugiperda, 9; A. ypsilon, 18; H. zea, 3; F. subterranea, 106. (Beaumont, 1/5-15): P. unipuncta 164, L. frugiperda 38, F. subterranea 6. GEORGIA - (Tift County, 1/14-20): F. subterranea 3, Agrotis malefida 4. SOUTH CAROLINA - (Charleston, 1/2-8): P. unipuncta, 6; A. ypsilon, 1. (Charleston, 1/9-15): P. unipuncta, 5; A. ypsilon, 9; F. subterranea, 1.

Weather Continued

Plains. The greatest depth for non-mountainous locations is now 32 inches at Houghton, Mich. Reported depths for some higher stations in the West are 121 inches at Twin Lakes, Calif., 126 inches at Crater Lake, Oregon, and 200 inches at Paradise Ranger Station, Washington. (Summary Supplied by U. S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1955

IDAHO

Reported by H. C. Manis, A. R. Gittins, R. W. Portman, A. J. Walz, W. F. Barr, J. R. Douglass, K. E. Evans, H. W. Smith, and E. G. Davis

Cereal and Forage Insects

GRASSHOPPER infestations on cropland throughout the State were generally spotted and of local importance. Spotted populations of sufficient economic importance to warrant control were found in Ada, Camas, Canyon, Caribou, Clearwater, Gem, Idaho, Jefferson, Jerome, Madison, Nez Perce, Oneida, Owyhee, Payette, Teton, Twin Falls, Valley and Washington Counties. Melanoplus mexicanus, M. bivittatus, M. femur-rubrum and Camnula pellucida were principal species involved in crop areas. Control was applied to 46,403 acres, which protected vegetation on at least 95,366 acres of crop and range land. This saved an estimated \$123,595. Aircraft sprayed 40,389 acres and the balance was sprayed by ground equipment. Due to cold weather, MORMON CRICKET (Anabrus simplex) infestations were late developing in most areas. Control was restricted to Payette County where 715 acres were baited to protect 1,500 acres. This saved an estimated \$715. Surveys indicate that small areas within the following counties will need control in 1956: Clark, Fremont, Payette and Valley Counties. Spotted infestations of ARMY CUTWORM (Chorizagrotis auxiliaris) occurred on 64,000 acres during spring and summer of 1955 in areas of Idaho County. Approximately 1,000 acres of wheat, barley and alfalfa were severely damaged. Disease (a polyhedrosis virus) and tachina flies helped reduce populations below economic levels on all but 2,000 acres, which were sprayed. Fall survey indicates this outbreak now completely under control. WIREWORMS occurred in generally low populations on dryland areas. Severe losses occurred to winter wheat near Marsing, Owyhee County, where areas up to one acre were 100 percent destroyed.

BROWN WHEAT MITE (Petrobia latens) infestations occurred on 50,000 acres of grain in Arbon and Pocatello Valleys. Some reports of 300 mites per plant on dryland wheat in southeast counties. They were most numerous in fields with adequate subsoil moisture. ENGLISH GRAIN APHID (Macrosiphum granarium) caused light injury to 4,000 acres of wheat in Caribou, Custer, Butte, Bonneville, Bannock, Franklin, and Jefferson Counties. Populations were reduced by lady beetle activity in most areas. One-thousand acres of grain were treated with insecticides. SPIDER MITES (Tetranychus spp.) were found building up in red clover fields in southwestern area where many fields had been treated previously. These mites continued to attack red clover, beans, and corn during August and the first two weeks of September in this area, but damage was not severe enough to warrant control. SEED-CORN MAGGOT (Hylemya cilicrura) caused severe damage to sweet corn in the Moscow area. Heavy infestations of CARROT BEETLE (Ligyrus gibbosus) were found in corn on river bottom land in Benewah and Bonner Counties. CORN EARWORM (Heliothis zea) occurred in lowest infestations during last four years. Only local

injury was found in southcentral and northern areas where highest infestations averaged two larvae per 100 ears. WHEAT STEM SAWFLY (Cephus cinctus) was found in all counties surveyed. Boundary, Bonner, Shoshone, Lemhi, and Clark were not surveyed. Infestations were found on native grasses, particularly Agropyron spp., in all counties surveyed. Infestations were also found on wheat in Fremont, Teton, Bonneville, and Madison Counties. In general, all infestations were light, being heavier in southeastern areas where wheatgrasses were more abundant. Infestations in spring and winter wheat were confined to dryland areas at 5,000-foot-plus elevations. No infestations were found along river bottoms or on irrigated land. Survey for WESTERN BEAN CUTWORM (Loxagrotis albicosta) was made in 55 corn fields between Twin Falls and Rupert. Of this total only seven were found infested. Infestations on these fields ranged from one to five plants attacked. In August, fields of dent and sweet corn were examined in the Boise Valley. No signs of the insect were observed. SPOTTED ALFALFA APHID crossed the Idaho line south of Malad from Utah during August, 1955. CLOVER ROOT CURCULIO (Sitona hispidula) caused some localized damage to red clover fields in southwestern Idaho. SWEETCLOVER WEEVIL (Sitona cylindricollis) infestations were found in sweetclover stands generally throughout northern, central, and southwestern areas. Particularly heavy injury to clover was observed in the Arco, Moore, Coeur d'Alene, Tetonia and Idaho Falls areas. PEA APHID (Macrosiphum pisi) spring populations were lowest of past five years but rapid build-up was noted by mid-summer in alfalfa and clover fields. Some areas of southwestern Idaho showed 500 per sweep by July 30. However, extreme abundance of predators in all fields contributed to rapid decline of aphids in alfalfa and red clover in southern part of the State.

ALFALFA WEEVIL (Hypera postica) was at lowest level of population of past 10 years. Most alfalfa fields did not show weevil damage at first haying. Moderately severe larval injury occurred to second growth alfalfa in Washington, Minidoka, Jefferson, Jerome, and Bonneville Counties. LYGUS BUGS (Lygus spp.) continued to be one of Idaho's more destructive insect pests. Moderate to heavy infestations throughout the State where recommended control measures were delayed or omitted. CLOVER APHID (Anuraphis bakeri), from 300 - 350 per flower, occurred in some southwestern red clover fields. Elsewhere populations were low with a few reports indicating local, spotted infestations. CUTWORMS, unidentified species, caused severe damage to 250 acres of small seeded clover in Long Valley, with estimated loss of 100 acres. LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) showed 40 percent infestation in second-year red clover and 15 percent infestation first-year red clover west of Weiser. BLISTER BEETLES (Epicauta spp.) were particularly abundant in dryland alfalfa seed fields north of Boise and Emmett and in the Weiser area with 5 - 10 beetles per sweep in heavily infested fields.

Vegetable Crop Insects

ONION MAGGOT (Hylemya antiqua) caused severe damage to stands of onions around Moscow, Buhl and the southwestern counties. Many fields showed high incidence of fusarium rot and several secondary onion pests

were found infesting decaying plants and occasionally causing injury to neighboring healthy bulbs. Maggots also persisted in fall-planted onions. BROWN WHEAT MITE (Petrobia latens) attacked some onion fields in Canyon County occasioning light injury. Extremely heavy populations of second-generation COLORADO POTATO BEETLE (Leptinotarsa decemlineata) larvae resulted from delayed controls in southern Idaho due to unfavorable weather. Moderate to heavy mid-summer overlapping infestations were common causing considerable defoliation in nearly all potato-growing areas throughout the southern counties. Most fields required two treatments to hold beetles in check. A new record of distribution was noted within the city limits of Pocatello. GREEN PEACH APHID (Myzus persicae) populations in potatoes in southwestern Idaho were higher than since 1950, from zero to over 100 per lower compound potato leaf. Statewide, natural predators, particularly lady beetles, eliminated aphids from most potato fields. CABBAGE MAGGOT (Hylemya brassicae) caused severe injury to unprotected cabbages in Twin Falls County. Western black flea beetle, cabbage aphid, tomato hornworm, turnip aphid were abundant or damaging in home gardens in Moscow area. Unusually large number of adults of IMPORTED CABBAGEWORM (Pieris rapae) occurred in Moscow area. Untreated cabbage injured by imported cabbageworm, cabbage looper, and diamond backed moth caterpillars in Twin Falls County. Heavy adult populations of PEA WEEVIL (Bruchus pisorum) were forced into grain fields of northern Idaho early in the year because of meager spring vine growth in pea fields due to cool dry weather and low soil moisture. This was the first time in 15 years that early emergence of hibernating weevil was coupled with extremely slow development of field peas. Controls were carried out in south central Idaho, but unseasonable weather conditions prolonged the operations. Damage by WESTERN BEAN CUTWORM and SEED-CORN MAGGOT (Hylemya cilicrura) was light and localized in southern Idaho. Control measures were applied against the LETTUCE APHID (Macrosiphum barri) in many commercial lettuce seed plantings. CUTWORMS, undetermined species, damaged sugar beet fields west of Parma. Many sugar beet fields in south central Idaho and the upper Snake River Valley were treated for control of RED-BACKED CUTWORM (Euxoa ochrogaster). This cutworm was more widespread and more fields were treated than in any previous year. FLEA BEETLE adults were common in sugar beet fields in outlying areas of the Magic Valley.

Insects Affecting Speciality Crops

Light to medium populations of CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) occurred in rape seed fields, and controls were applied. Populations were considerably lower than in past years. STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) infested all hop yards examined in southwestern Idaho; as high as ten adults under single hop vine. Infestations of the BEAN APHID (Aphis fabae) were heavy on small acreages of safflower in the Moscow area.

Fruit Insects

High populations of adult STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) appeared in strawberry patches in the vicinity of Moscow. Leaf rollers caused injury in a few strawberry fields scattered throughout State. CUTWORMS, unidentified species, caused moderate to extensive damage on small fruit plantings throughout the State with severe damage on strawberries in Gem County. Scattered infestations of ORIENTAL FRUIT MOTH caused some injury in fruit orchards, particularly in the Homedale area. PEAR SLUG (Caliroa cerasi) occurred on pear trees in Twin Falls and infested ornamental shrubbery. Damage appeared in most untreated pear and cherry orchards throughout the southwestern, central and northern parts of Idaho. EUROPEAN EARWIG (Forficula auricularia) was a minor pest of apricot trees in southwestern Idaho. SINUATE PEAR TREE BORER (Agrilus sinuatus) was active in prune orchards in southwestern Idaho. Some orchards had large populations of moths resulting from a build-up over several years. Fruit growers are now contemplating an extensive control program to prevent heavy tree loss. YELLOW-NECKED CATERPILLAR (Datana ministra) was found in the Lewiston area infesting fruit crops; considerable defoliation on unsprayed trees. Heavy infestations of WOOLLY APPLE APHID (Eriosoma lanigerum) developed on new-growth apple twigs in Moscow area even where trees had previously been sprayed twice. Populations of, and injury due to CODLING MOTH (Carpocapsa pomonella), PEACH TREE BORER (Sanninoidea exitiosa), PEAR THRIPS (Taeniothrips inconsequens), TREE CRICKETS and SHOT HOLE BORERS appeared very light generally throughout the State. EUROPEAN RED MITE (Metatetranychus ulmi) caused considerable damage to the development of blossoms and leaves in apple and pear orchards throughout Idaho where dormant sprays were omitted. Extremely heavy infestations of Tetranychus spp. developed in orchards in Adams County in September.

Forest and Ornamental Insect Pests

BOXELDER BUG (Leptocoris trivittatus) adults were active around trees and dwellings near hibernating areas during May. Spotted infestations of JUNIPER SCALE (Diaspis carueli) occurred on some ornamental junipers in southern Idaho. First winged adults of NORWAY-MAPLE APHID (Periphyllus lyropictus) were found on maple trees in Moscow during late May. Spotted, severe infestations occurred throughout the season on maple trees in Moscow. Low spring predator populations probably accounted for the general build-up. Heavy infestations of the aphid were also found on maples in Twin Falls. Extremely heavy defoliation of elms by ELM LEAF BEETLE (Galerucella xanthomelaena) in Boise Valley where trees were not sprayed for control. High populations of two species of APHIDS (Myzocallis sp. and M. tiliae) occurred on elm and linden trees in Moscow, during August. Extremely severe infestations of COTTONY MAPLE SCALE (Pulvinaria innumerabilis) occurred on maples in Emmett, August. 6. LEAFHOPPERS, unidentified species, were abundant on lawns throughout Idaho. One instance of severe injury to lawns was reported from Buhl. A CHRYSOMELID (Altica plicipennis) adults were very abundant on willow in the Salmon River canyon. Scattered infestations of FALL WEBWORM (Hyphantria cunea) occurred on apples, chokecherries and poplars in the Boise Valley area.

Several reports were received of extensive injury to flower gardens by GARDEN SLUGS (*Limax* sp.) in the vicinity of Moscow and Cottonwood, September 16. SPIDER MITES were severe on ornamental evergreens in northern area.

Household Pests

Several reports were received of heavy infestations of CLOVER MITE (*Bryobia praetiosa*) in homes in the Moscow, Gooding, Idaho Falls, and Boise areas. Some damage occurred to plants, particularly prim-roses and hyacinth around houses. Heavy egg deposition on apple trees at Challis on reportedly well-sprayed trees. Extremely heavy populations of EUROPEAN EARWIG (*Forficula auricularia*) were reported from several areas. They were particularly abundant in and about dwellings throughout Latah and Twin Falls Counties. Two new infestations of BROWN-BANDED ROACH (*Supella supellectilium*) were reported from Twin Falls and Kuna. Established infestations have been recorded in Idaho from Boise, in 1953 and subsequently from Nampa and Moscow. New infestations of SUBTERRANEAN TERMITES were found in Challis, Arco and Idaho Falls. Reports continued from widely scattered areas on damage from these insects. Either infestations are increasing or home owners are becoming more conscious of the infestations.

Livestock and Medically Important Pests

MIDGES were collected from the storage reservoir, Twin Falls City water supply, by C. R. Reinstein, May 7. Two puparia and one full grown larva of FALSE STABLE FLY (*Muscina stabulans*) were sent in for identification by St. Joseph's Hospital in Lewiston. These specimens were obtained from a patient and apparently passed with the feces. This is one species commonly taken or supposed to be taken in intestinal myiasis. CATTLE GRUBS - Many heel flies were actively ovipositing on cattle in southwestern Idaho, June 11. Unidentified SIMULIDS were reported to have caused loss of weight among range cattle in Owyhee County. No survey of livestock pests was carried out in 1955. Information on the livestock pest situation has been gathered from reports sent into this office by reporters in the State.

Stored Products Insects

Inspections of farm grain storages in Boundary and Bonner Counties show most infested with a variety of stored grain pests. Most commonly collected were DERMESTIDS, FUNGUS BEETLES and GRANARY WEEVILS, July 18. As with livestock pests, no concerted effort to survey the stored grain insect situation was carried out.

Summary of Beet Leafhopper Conditions
in Southern Idaho and Eastern Oregon, 1955

Reported by J. R. Douglass

Beet leafhopper (*Circulifer tenellus*) populations and the acreage of Russian-thistle in the fall of 1954 were approximately five times larger than in 1953. Winter annual hosts germinated soon after the summer weed hosts dried, and the insect entered the winter of 1954-55 under favorable conditions. The winter was long and cold, which was unfavorable for leafhopper survival. The spring weed-host plants were generally abundant and widely distributed in most of the burned and disturbed areas, while in the sagebrush areas they were dwarfed and sparse. Over much of the spring breeding areas, the weed hosts were unfavorable for producing high populations of leafhoppers, because they were growing either in dense stands or intermixed with nonhost grasses, creating unfavorable environmental conditions. Spring studies of representative breeding areas in 1955 showed an average of 16 overwintered beet leafhoppers per 100 square feet of weed-host area, as compared with an average of 30 for the past 14 years. The alternating cold and warm spring weather extended the egg-laying period of the overwintered females from the latter part of March to late May. Unseasonable, cold, stormy weather during April and May delayed the development of and reduced the size of the spring generation. In one of the most productive spring breeding areas, the peak of the first-generation nymphal population was reached on June 7, when an average of 20 per square foot of weed-host area was recorded, as compared with 188 nymphs on May 17, 1954. Spring weed hosts began maturing and drying during the latter part of May, and many dried before the insects reached the winged stage. The initial movement of the spring-generation leafhoppers into beetfields began on June 8 and reached a peak on July 7, when 70 adults per 100 square-foot samples were recorded, as compared with 699 for the 21-year period of 1935-55. Tests of overwintered beet leafhoppers collected in spring breeding areas showed that 10 percent carried the virus of curly top. Readings of curly top infection in commercial beanfields of south central Idaho showed that an average of 0.3 percent of the snap beans and 0 percent of Great Northern U. I. 123 dry field beans was infected with curly top. An average of 1.8 percent of the sugar beet plants in south central Idaho and western Idaho-eastern Oregon was infected with curly top. Fall studies of representative summer breeding areas showed that the acreage of Russian-thistle was about twice as large as in 1954. The fall population of beet leafhoppers in 1955 was the largest since 1949 and was over twice as large as the 1954 population. Because of late germination of winter annual host plants and cold weather, the leafhopper entered the winter under adverse conditions.

SUMMARY OF INSECT CONDITIONS - 1955

OHIO

Reported by C. R. Weaver, R. B. Neiswander, C. R. Cutright, J. P. Sleesman, L. H. Rolston, J. B. Polivka, R. W. Rings and T. H. Parks

Forage Crop Insects

MEADOW SPITTLEBUG (Philaenus leucophthalmus) was about the same as in 1954 with heavy infestation running in a wide area from northeast to southwest across the State. First cutting red clover and alfalfa was damaged about 10 percent, a dollar loss of \$7,700,000. LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) continued at a high level. Loss to red clover first cutting was estimated at 3 percent, a dollar value loss of \$1,600,000. POTATO LEAFHOPPER (Empoasca fabae) failed to develop on second cutting alfalfa but caused widespread damage to third cutting. Estimated loss to third cutting was 25 percent, a dollar value loss of \$1,500,000. CLOVER ROOT BORER (Hylastinus obscurus) continued to maintain high population levels. As in 1954 it was responsible for about 20 percent loss of the second cutting red clover crop. Dollar losses due to this insect probably amounted to about \$5,000,000. SWEETCLOVER WEEVIL (Sitona cylindricollis) was generally abundant. ALFALFA PLANT BUG (Adelphocoris lineolatus) was not abundant as in 1954. GRASSHOPPERS were exceptionally abundant in local areas. The newly-hatched nymphs were most noticeable in second cutting alfalfa and new seedlings of alfalfa after grain harvest. The nymphs generally dispersed when the crop was clipped or harvested. PEA APHID (Macrosiphum pisi) failed to develop as an important pest on alfalfa.

Corn Insects

EUROPEAN CORN BORER (Pyrausta nubilalis) fall populations were higher in the northwestern counties than in 1954, but much lower in the southwestern counties and slightly lower in the State as a whole. There was practically no loss from stalk breakage or ear drop. Fall survey showed monetary loss estimated at about \$6,000,000. Early infestations of CORN EARWORM (Heliothis zea) in sweet corn were lower than usual, but mid- and late-season infestations were about normal. Damage to field corn was generally light. CORN LEAF APHID (Rhopalosiphum maidis) infestations were spotty. Some fields of susceptible hybrids were noticeably damaged in southwestern counties. NORTHERN CORN ROOTWORM (Diabrotica longicornis) adults were generally present in very light numbers. Moderate populations were found in two restricted areas but no reliable estimate of damage. CORN FLEA BEETLE (Chaetocnema pulicaria) was fairly abundant but the incidence of Stewart's disease was lower than in other recent years. CHINCH BUGS and ARMYWORMS were not important.

Turf Insects

JAPANESE BEETLE grubs were more abundant in some areas and less in others. The infestation over the State as a whole was probably a little higher than in 1954. WHITE GRUBS - Requests for control

measures for Phyllophaga sp. were more numerous than usual in 1955. Larvae were found causing considerable damage to turf in northwestern Ohio in an area extending from Richland County through Wayne County to Steubenville. Cyclocephala sp. was approximately as numerous as in 1954. CUTWORMS were very numerous in pastures in Guernsey County. Populations in other areas were about as usual. SOD WEBWORMS were more numerous than in 1954, especially in golf course greens.

Apple Insects

CODLING MOTH (Carpocapsa pomonella) was much less severe than in 1954 or even 1953. EUROPEAN RED MITE (Metatetranychus ulmi), developing resistance to parathion, was more expensive to control due to costs of extra sprays. However, infestations generally were not too severe. TWO-SPOTTED MITE (Tetranychus telarius) was very light. Both ROSY APHID (Anuraphis roseus) and APPLE APHID (Aphis pomi) did little damage. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) was severe. Orchards having from 5 to 8 percent of fruit damaged were too common. APPLE MAGGOT (Rhagoletis pomonella) was unusually severe and even appeared in some commercial orchards where DDT was being widely used. PLUM CURCULIO (Conotrachelus nenuphar) was about average.

Estimated losses due directly to apple pests, 1955:

Codling moth	\$ 80,000
Orchard mites	70,000
Plum curculio	20,000
Red-banded leafroller	40,000
Apple maggot.	40,000
Aphids	10,000
Others	<u>10,000</u>
Total	\$270,000

Cost of insect control. The 1955 Ohio crop of 4,000,000 bushels was worth approximately \$8,000,000. The estimated cost of 20 cents per bushel for insect and mite control is apportioned as follows:

Codling moth.	\$ 500,000
Orchard mites	130,000
Plum curculio	40,000
Red-banded leafroller	50,000
Apple maggot	48,000
Rosy aphid	16,000
Others	<u>16,000</u>
Total cost of control practices	800,000
Loss in spite of control practices	<u>270,000</u>

Total loss from insect damage to apple crop - \$1,070,000

Stone Fruit Insects

According to the best available estimates there were 1,100,000 bushels of peaches produced in Ohio in 1955 and the average price was approximately \$2.50. This makes a total peach crop value of \$2,750,000.

Based upon this and the annual peach insect survey the monetary damage caused by various peach pests is estimated as follows:

Cat-facing insects	\$ 73,041.19
Grasshoppers	26,200.00
Oriental fruit moth	23,000.00
Plum curculio	19,000.00
Mites	10,000.00
Red-banded leaf roller	6,050.00
Total	\$ 157,291.19

Vegetable Crop Insects

Potato leafhopper, potato flea beetle, and Colorado potato beetle were well controlled on commercial plantings. Populations of both the potato leafhopper and potato flea beetle were above average, especially late in the summer. Striped cucumber beetle, aphids, root maggots, and onion thrips were of minor importance. Two-spotted spider mite populations were light in early summer, becoming heavy late in the growing season. Cabbage caterpillars, both imported cabbageworm and cabbage looper, were abundant. Infestations of tomato fruitworm and Mexican bean beetle generally were light.

Insect Problems on Ornamentals and Forest Trees

EUROPEAN PINE SAWFLY (Neodiprion sertifer) and EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) continued as the major pests of forest and Christmas tree plantings. The sawfly seemed most troublesome on red and Scotch pine plantings in north central Ohio. Shoot moth damage was limited largely to red pine but occurred in much of the north half of the State. Following a low point in 1951, BAGWORMS gradually increased in abundance and were again rather severe in central and southern Ohio. In ornamental plantings they caused most trouble on arborvitae and juniper. A number of requests for information was received concerning three SCALE INSECTS: juniper scale (Diaspis carueli), pine needle scale (Phenacaspis pinifoliae) and euonymus scale (Unaspis euonymi). Of these the juniper scale caused most damage, perhaps because of the relatively large number of Pfitzer juniper plants in ornamental plantings. On roses FLOWER THRIPS (Frankliniella tritici) continued as the most troublesome pest, but injury seemed less severe than in 1954. Various species of MITES have increased in abundance and were troublesome for nurserymen during 1955. Spruce spider mite (Oligonychus ununquus) occurred most commonly, but O. bicolor, Vasates atlantazaleae, Eotetranychus multidigituli, and cyclamen mite (Steneotarsonemus pallidus), all caused injury. Two gall-forming mites (Vasates quadripedes and Aceria fraxinivorus) were abundant also. In central and southern Ohio two LEAF GALLS on pin oaks, marginal fold gall and vein pocket gall, were particularly

troublesome for arborists. An outbreak of AZALEA LEAF MINER (Gracilaria azaleella) occurred in Lake County. In a planting of several acres every plant and nearly all leaves were infested. This pest had not been observed in Ohio previous to 1955. ELM LEAF BEETLE (Galerucella xanthomelaena) was abundant locally.

Miscellaneous

The following species were abundant or above normal in population generally: European red mite, ants, crickets, grain weevils, termites, spittlebugs, boxelder bug and nitidulids.

GENERAL LIGHT TRAP INFORMATION—1955

In response to several requests for information on light trap operations, a questionnaire was prepared and sent to each State clearing office. Thirty-nine States have replied. The questionnaire covered the type of trap used and its distribution, suggested report form and a check list for cooperators to indicate species in which they were particularly interested. Of the States replying, twenty-five submitted preferred lists of insects to be included in the light trap survey. The first sixteen insects in order of preference are as follows: *Pseudaletia unipuncta*, 23; *Heliothis zea*, 22; *Agrotis ypsilon*, 17; *Laphygma frugiperda*, 16; *Protoparce sexta*, 15; *P. quinquemaculata*, 14; *Peridroma margaritosa*, 14; *Empoasca fabae*, 13; *Heliothis virescens*, 7; *Feltia subterranea*, 7; *Alabama argillacea*, 7; *Chorizagrotis auxiliaris*, 4; *Pectinophora gossypiella*, 4;

Anticarsia gemmatilis, 3; *Pyrausta nubilalis*, 3; and *Acontia dacia*, 3. Distribution and type of trap are shown on the accompanying table and map.

In 1955, reports of catches were submitted weekly from many of the traps included on the map. The chart which follows the map has been compiled as an example of how the light trap information is being correlated to study the seasonal trends of various insects. Although records received are not inclusive for the entire season or for all traps, the armyworm moth records from a few of the traps have been used to develop the example given.

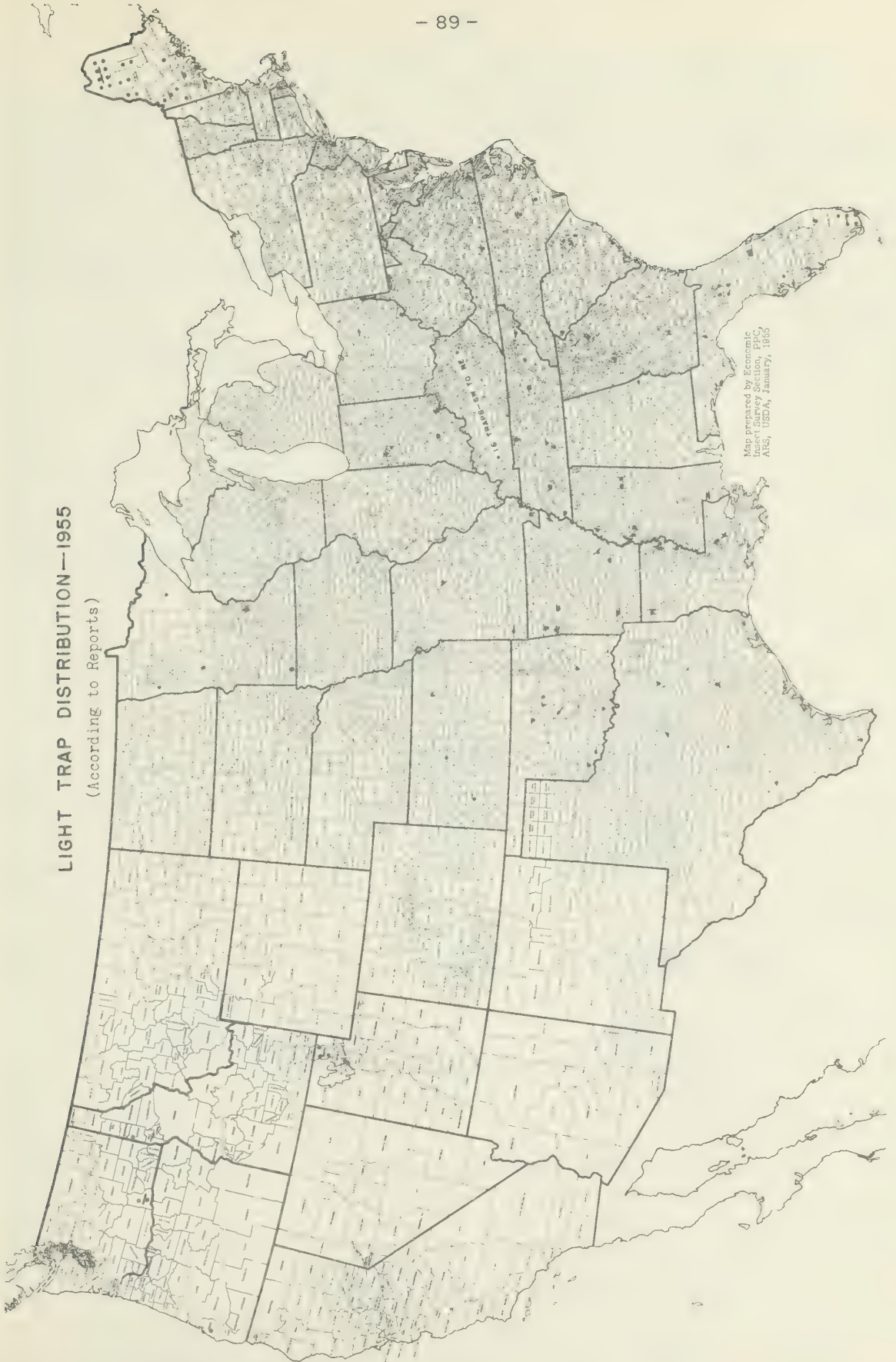
State	County	Type of Trap	Total Wattage	No. of Bulbs	No. of Traps
Alabama	Lee	Black light	15	1	1
Arkansas	Arkansas	Black light	15	1	1
	Lincoln	do.	do.		
	Hempstead	do.	do.		
	Johnson	do.	do.		
	Crawford	do.	do.		
	Washington	do.	do.		
Colorado*					
Delaware	Kent	Black light	15	1	3
Georgia	Tift	Black light	15	1	1
	Spalding	do.	do.		
	Clarke	do.	do.		
Florida	Alachua	Black light	15	1	3
		White electric	200	1	1
	Dade	Black light	15	1	5
	Manatee	Black light	15	1	1
	Hillsborough	do.	do.		
	Jefferson	do.	do.		
	Palm Beach	do.	do.		
	Seminole	do.	do.		
Idaho	Latah	Black light	15	1	1
Indiana	Tippecanoe	Black light	15	1	1
		White electric	75	1	1
	Lawrence	Black light	15	1	1
	Jefferson	do.	do.		
Kansas	Finney	Black light	15	1	1
	Ellis	do.	do.		
	Riley	do.	do.		
	Doniphan	do.	do.		
Kentucky**		Black light	15ea.	1 ea.	16
		Bl. light (blue)	15	1	1
Louisiana	Madison	Black light	15	1	1
		Mercury vapor	100	1	1
	Bat. Rouge	Black light	15	1	1
		Mercury vapor	100	1	1
	Bossier	Bl. light (blue)	15	1	1
	St. Mary	Mercury vapor	100	1	1
	Tensas	do.	do.		
Maine	Cumberland	Blue mazda	100	1	1
	Kennebec	White electric	100	1	1
	Oxford	White electric	200	1	1
	Franklin	White electric	200	1	2
		2-mantle gasol.	200	1	1
	Somerset	White electric	200	1	1
		2-mantle gasol.	200	1	1
	Piscataquis	White electric	200	1	1
		2-mantle gasol.	200	1	1
	Penobscot	Blue mazda	100	1	1
		White electric	200	1	2
	Aroostook	Blue mazda	100	1	1
		White electric	200	1	4
		2-mantle gasol.	200		3
Maryland	Montgomery	Black light	15	1	1
Minnesota	Polk	Minn. type (daylgt.)	150	1	1
	St. Louis	do.	do.		
	Otter Tail	do.	do.		
	Ramsey	do.	do.		
	Nobles	do.	do.		

State	County	Type of Trap	Total Wattage	No. of Bulbs	No. of Traps
Mississippi	Washington	Fluorescent	15	1	1
		Black light	15	1	1
		Mercury vapor	400	1	1
	Oktibbeha	Fluorescent	15	1	2
	Coahoma	Fluorescent	15	1	1
	Pearl R.	do.	do.		
	Humphreys	do.	do.		
Missouri	Boone	Black light	15	1	1
	Newton	do.	do.		
	Pemiscot	do.	do.		
North Car.	Duplin	Black light	15	1	1
	Johnston	do.	do.		
Ohio	Wayne	Incandescent	150	1	1
	Washington	do.	do.		
Oklahoma	Carter	White electric	40	1	1
	Garfield	do.	do.		
	Jackson	do.	do.		
	Oklahoma	do.	do.		
	Payne	do.	do.		
		Black light	15	1	1
	Pittsburg	do.	do.		
	Tillman	do.	do.		
Oregon	Coos	Black light	15	1	1
South Car.	Charleston	Black light	15	1	1
		Black light	60	4	1
		Black light	15	1	1
		Black light	30	2	1
		Mercury vapor	400	1	1
	Oconee	Black light	15	1	1
Tennessee	Cumberland	Black light	30	2	1
	Greene	do.	do.		
	Knox	do.	do.		
	Lawrence	do.	do.		
	Madison	do.	do.		
	Maury	do.	do.		
	Robertson	do.	do.		
	Shelby	do.	do.		
Texas	Brazos	Black light	60	4	1
	Erath	Black light	15	1	1
	Hidalgo	do.	do.		
	Jefferson	do.	do.		
	Kaufman	do.	do.		
	Zavala	do.	do.		
Utah	Cache	White electric	200	1	1
		2-mantle gasol.	200		1
	Davis	2-mantle gasol.	200		1
Virginia	Nansemond	Black light	15	1	1
	Pittsylvania	Black light	30	2	1
Washington	Benton	Black light	15	1	2
West Va.	Monongalia	Black light	15	1	2

* Lights used have one 150 watt bulb each. No number or location submitted.

** Traps distributed from southwest to northeast.

LIGHT TRAP DISTRIBUTION—1955
(According to Reports)



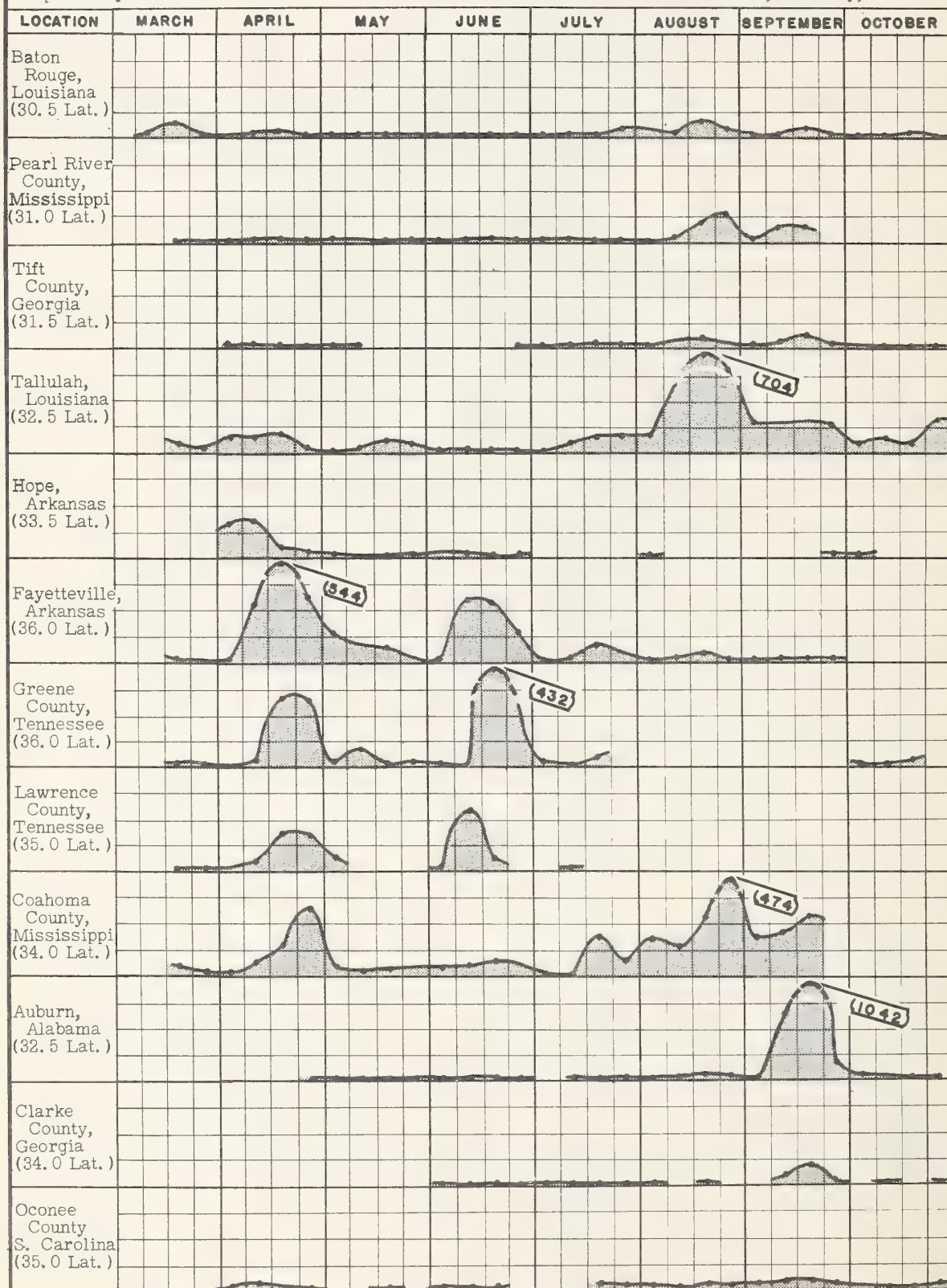
1955 LIGHT TRAP COLLECTIONS

Chart by Economic Insect
Survey Section, PPC/ARS
USDA, January, 1956

□ = 100 Specimens

Reported by States

PSEUDALETIA UNIPUNCTA



USDA, ACRL RESEARCH SERVICE
ENTOMOLOGY RESEARCH BR
FRUIT INSECTS SECTION
3-7-55 PLANT INDUSTRY STATION
IPS BELTSVILLE, MD

